

Table 1 Plastic surgeon reported closure of abdominal secondary defect (n = 83)

| Phase of closure | Product | N (%) |
|----------------------------|--------------------------|---------|
| Rectus sheath mesh | No mesh used | 27 (34) |
| | Mesh (type not reported) | 15 (18) |
| | Prolene mesh | 4 (5) |
| | Ultrapro | 3 (4) |
| | Vipro | 2 (2) |
| | Parietax | 1 (1) |
| | Vicryl | 1 (1) |
| | Missing | 30 (36) |
| Closure of rectus sheath | Nylon | 37 (45) |
| | Polydioxanone | 6 (7) |
| | Barbed suture | 4 (5) |
| | Vicryl | 2 (2) |
| | Ethibond | 1 (1) |
| | Prolene | 1 (1) |
| | Missing | 32 (39) |
| Closure of Scarpa's fascia | Polydioxanone | 23 (28) |
| | Vicryl | 14 (17) |
| | Monocryl | 8 (10) |
| | Barbed suture | 6 (7) |
| | Vicryl | 2 (2) |
| | Missing | 21 (25) |
| Deep dermal closure | Monocryl | 34 (41) |
| | Vicryl | 10 (12) |
| | Barbed suture | 7 (8) |
| | Polydioxanone | 3 (4) |
| | Insorb | 3 (4) |
| | Missing | 26 (31) |
| Skin closure | Monocryl | 46 (55) |
| | Polydioxanone | 3 (4) |
| | Barbed suture | 2 (2) |
| | Vicryl | 1 (1) |

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| | Staples | 1 (1) |
| | Missing | 30 (36) |
| Wound dressing | Tissue glue | 9 (11) |
| | Steristrips | 8 (10) |
| | Tissue glue and dressing | 7 (8) |
| | Prineo | 4 (5) |
| | Missing | 55 (66) |

Data derived from free text responses. Missing data documented where no reference to that part of closure was mentioned in the response.

Table 2 Anaesthetists reported preferences for postoperative analgesia (n/N%). Multiple responses allowed.

| Analgesic | Regular | PRN | No | Missing |
|--------------------------------------|---------|---------|---------|---------|
| Paracetamol | 67 (94) | 0 (0) | 2 (3) | 3 (3) |
| Patient controlled analgesia | 40 (56) | 10 (14) | 19 (27) | 3 (3) |
| NSAID (e.g. ibuprofen) | 34 (48) | 7 (10) | 28 (39) | 3 (3) |
| Oral morphine | 16 (23) | 25 (35) | 28 (39) | 3 (3) |
| Gabapentin | 13 (18) | 2 (3) | 54 (76) | 3 (3) |
| Compound analgesic (e.g. co-codamol) | 5 (7) | 7 (10) | 57 (80) | 3 (3) |
| Aspirin | 1 (1) | 0 (0) | 68 (96) | 3 (3) |
| COX-2 Inhibitor (e.g. Celecoxib) | 1 (1) | 0 (0) | 68 (96) | 3 (3) |

NSAID, non-steroidal anti-inflammatory drug; COX, cyclooxygenase

Table 3 Comparison of optiFLAPP responses with ERAS protocol and ABS/BAPRAS guidance

| Item | ERAS Society Recommendation | ABS / BAPRAS Recommendations | optiFLAPP experience |
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| Preadmission information, education, and counseling | Patients should receive detailed preoperative counseling. | Patients should receive information in a format and level of detail that meets their individual needs. | In addition to clinic consultation, paper-based information widely used but limited use of electronic resources. |
| Preadmission optimization | For daily smokers, 1 month of abstinence before surgery is beneficial. For patients who are obese, weight reduction to achieve a BMI ≤ 30 kg/m ² before surgery is beneficial. For alcohol abusers, 1 month of abstinence before surgery is beneficial. For appropriate groups, referral should be made to resources for these behavior changes. | All women should undergo a pre-operative assessment process prior to admission. | All patients attend a preadmission clinic to prepare them for surgery. BMI and smoking not examined by survey. |
| Perforator flap planning | If preoperative perforator mapping is required, CTA is recommended. | No specific guidance. | Preoperative imaging is performed in 92% patients (CTA 67%) |
| Perioperative fasting | Preoperative fasting should be minimized and patients should be allowed to drink clear fluids up to 2 hour before surgery. | No specific guidance. | Most patients are encouraged to drink up to 2 hours before surgery. |
| Preoperative carbohydrate loading | Preoperative maltodextrin-based drinks should be given to patients 2 hour before surgery. | No specific guidance. | Only 13% given a specific oral fluid prescription for carbohydrate loading. |
| Venous thromboembolism prophylaxis | Patients should be assessed for venous thromboembolism risk. Unless contraindicated, and balanced by the risk of bleeding, patients at a higher risk should | LMWH according to risk factors 12 hours prior to surgery (night before operation). TEDS on admission. Leave flowtrons on for first 24 hours post operation. Encourage | Most patients receive combined VTE prophylaxis of LMWH and TEDS. Few continue VTE prophylaxis beyond the admission. |

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| | <p>receive low-molecular-weight heparin or unfractionated heparin until ambulatory or discharged. Mechanical methods should be added.</p> | <p>ankle dorsi / plantar flexion after flowtrons removed.</p> <p>No guidelines for tamoxifen</p> | <p>Most surgeons stop tamoxifen</p> |
| Antimicrobial prophylaxis ^[1] _{SEP} | <p>Chlorhexidine skin preparation should be performed and intravenous antibiotics covering common skin organisms should be given within 1 hour of incision.</p> | <p>2% chlorhexidine with 70% isopropyl alcohol with tint provides the best skin decontamination. A single intravenous dose of prophylactic antibiotic given on induction of anaesthesia. If the operation lasts longer than 4 hours or there is significant blood loss, a second dose may be indicated.</p> | <p>All patients receive induction antibiotics. 45% receive antibiotics beyond the procedure.</p> |
| Postoperative nausea and vomiting prophylaxis | <p>Women should receive preoperative and intraoperative medications to mitigate postoperative nausea and vomiting.</p> | <p>Propofol infusions, 5HT3 antagonists and a multimodal approach to minimize retching.</p> | <p>Not assessed.</p> |
| Preoperative and intraoperative analgesia | <p>Women should receive multimodal analgesia to mitigate pain.</p> | <p>No specific guidance.</p> | <p>30% anaesthetists report prescribing preoperative analgesia</p> |
| Standard anesthetic protocol | <p>General anesthesia with TIVA is recommended.</p> | <p>No specific guidance.</p> | <p>39% anaesthetists use TIVA; 37% use volatile anesthesia</p> |
| Preventing intraoperative hypothermia ^[1] _{SEP} | <p>Preoperative and intraoperative measures, such as forced air, to prevent hypothermia should be instituted. Temperature monitoring is required to ensure the patient's body temperature is maintained above 36°C.</p> | <p>Patient temperature should be carefully monitored. No specific guidance on warming.</p> | <p>A range of measures were reported to prevent hypothermia. Large variation in preoperative warming and forced air warming devices.</p> |

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| Perioperative intravenous fluid management ^[1] _[SEP] | <p>Over resuscitation or under resuscitation of fluids should be avoided and water and electrolyte balance should be maintained. Goal-directed therapy is a useful method of achieving these goals.</p> <p>Balanced crystalloid solutions, rather than saline, is recommended.</p> <p>Vasopressors are recommended to support fluid management and do not negatively affect free flaps.</p> | Fluid balance must be carefully monitored and patients kept adequately hydrated. | <p>Goal directed therapy not widely used.</p> <p>Hartmann's solution was the preferred solution for maintenance and fluid boluses.</p> <p>84% anaesthetists reported always or sometimes using vasopressors.</p> |
| Postoperative analgesia ^[1] _[SEP] | Multimodal postoperative pain management regimens are opioid-sparing and should be used. | A multi-modal approach to analgesia should be considered – options include patient controlled analgesia, regional techniques, local anesthetic wound infiltration and a combination of opioid and non-opioid analgesics. | Opioid patient controlled analgesia widely used. Low use of NSAIDs. Approximately half of clinicians used regional blocks. |
| Early feeding | Patients should be encouraged to take fluids and food orally as soon as possible, preferably within 24 hour after surgery. | No specific guidance. | Not assessed. |
| Postoperative flap monitoring | Flap monitoring within the first 72 hour should occur frequently. Clinical evaluation is sufficient for monitoring, with implantable Doppler devices recommended in cases of buried flaps. | Monitor flap every 30 minutes for 24 hours and hourly thereafter. | <p>Range of flap monitoring protocols.</p> <p>Generally continue for 3 days and surface Doppler used as an adjunct.</p> |
| Postoperative wound management | For incisional closure, conventional sutures are recommended. Complex wounds following skin necrosis are treatable with débridement and negative-pressure wound therapy. | No specific guidance other than patients should be monitored for complications. | Large variation in abdominal wound closure techniques including the use of barbed sutures and closure devices. |

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| Early mobilization | Patients should be mobilized within the first 24 hours after surgery. | No specific guidance. | Not assessed. |
| Post discharge home support and physiotherapy | Early physiotherapy, supervised exercise programs, and other supportive care initiatives should be instituted after | Patients should have early access to specialist physiotherapy. | Not assessed. |
| Patient satisfaction | No specific guidance. | Patients' satisfaction with breast reconstruction outcome should be measured using standardized assessment tools. | Only 30% surgeons report collecting patient reported outcomes |

CTA, computed tomography angiography; VTE, venous thromboembolism; LMWH, low molecular weight heparin; TEDS, thromboembolic deterrent stockings; ERAS, enhanced recovery after surgery; ABS, Association of Breast Surgeons; BAPRAS, British Association of Plastic, Reconstructive and Aesthetic Surgeons; TIVA, total intravenous anesthesia